



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/466,521	12/17/1999	DARRYL GAMEL	96794DIV1	1283

7590 05/10/2004

MICHAEL C ANTONE
KIRKPATRICK & LOCKHART LLP
1500 OLIVER BUILDING
PITTSBURGH, PA 15222

EXAMINER

CHANG, RICK KILTAE

ART UNIT	PAPER NUMBER
----------	--------------

3729

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/466,521

Applicant(s)

GAMEL ET AL.

Examiner

Rick K. Chang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 77-90 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 77-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 77-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janisiewicz et al (US 5,040,291) in view of Hudson (US 5,768,759), and further in view of Harada (US 4,675,993), Grossman (US 3,881,605), Takahashi et al (US 5,084,962) and Hong et al (US 6,128,074).

Janisiewicz discloses in Fig. 2 a component feed source, 32 and 34 heads, except for fiducial markers and an optical fiducial marker detector, a controller, detecting the fiducial marker prior to retrieving from the component feed source, detecting the fiducial marker on the component prior to retrieving from the component feed source and alignment data representing lead orientations for the component.

Hudson discloses fiducial markers (col. 10, lines 27-40) and comparing steps (col. 7, lines 27-37).

Harada discloses a printed fiducial marker detector (col. 6, line 16), comparing steps and a controller thereby accurately imaging components for digitization and placement.

Takahashi discloses an optical fiducial marker detector (col. 1, line 56) thereby determining a component's exact position.

Art Unit: 3729

Grossman discloses detecting the fiducial marker prior to retrieving from the component feed source and detecting the fiducial maker on the component prior to retrieving from the component feed source (see cols. 1-4).

Hong discloses alignment data representing lead orientations for the component (detecting whether the leads are bent or not on a Pin Grid Array semiconductor package).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Janisiewicz by providing fiducial markers and comparing steps, as taught by Hudson, for the purpose of correctly positioning components on printed circuit boards.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Janisiewicz by providing a printed fiducial marker detector, comparing steps and a controller, as taught by Harada, for the purpose of correctly positioning components on printed circuit boards.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Janisiewicz by providing an optical fiducial maker detector, as taught by Takahashi, for the purpose of determining a component's exact position.

In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Janisiewicz by detecting the fiducial marker prior to retrieving from the component feed source and detecting the fiducial maker on the component prior to retrieving from the component feed source, as taught by Grossman, for the purpose of eliminating bad products.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Janisiewicz by providing alignment data representing lead orientations for

Art Unit: 3729

the component, as taught by Hong, for the purpose of reducing human errors, increasing the accuracy and precision of the inspection and productivity.

Response to Arguments

3. Applicant's arguments with respect to claims 77-90 have been considered but are moot in view of the new ground(s) of rejection.

Interviews After Final

4. Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

Conclusion

5. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional). Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

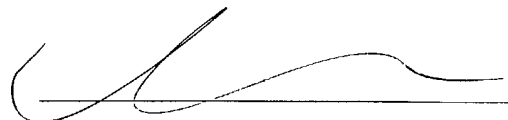
Art Unit: 3729

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM, Monday through Thursday.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

A handwritten signature in black ink, appearing to read 'Richard Chang', written over a horizontal line.

**RICHARD CHANG
PRIMARY EXAMINER**

Application/Control Number: 09/466,521

Page 6

Art Unit: 3729

RC

May 6, 2004